REMARKS

This application has been reviewed in light of the Office Action dated October 15, 2004. In view of the foregoing amendments and the following remarks, favorable reconsideration and withdrawal of the rejections set forth in the Office Action are respectfully requested.

Claims 1-8 are pending. Claim 8 has been withdrawn from consideration. Claim 1 has been amended. Support for the claim changes can be found in the original disclosure, and therefore no new matter has been added. Claim 1 is the sole independent claim.

The Office Action set forth a restriction requirement between two groups of claims, stating that Group I (Claims 1-7) is drawn to "an etching method," classified in class 216, subclass 27, and Group II (Claim 8) is drawn to "an ink-jet printhead," classified in class 347, subclass 20. In response to the restriction requirement, Applicant elected Group I (Claims 1-7), via a telephonic communication with the Examiner. As required by the Office Action, Applicant hereby affirms that election.

Claims 1-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,141,596 (*Hawkins et al.*). Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Hawkins et al.* Applicant respectfully traverses these rejections.

One feature of the invention as set forth in independent Claim 1 is forming a high-impurity-concentration region at a first surface of a silicon substrate so as to surround a through-hole-forming region.

By virtue of this feature in the claimed combination, the positional accuracy with which a through hole is formed may he increased. Increased positional accuracy can be

obtained because the through hole is formed in a region surrounded by a high-impurity-concentration region, and side etching of the through hole becomes significantly slow after it extends to the high-impurity- concentration region.

Applicant submits that nothing in *Hawkins et al.* would teach or suggest at least forming a high-impurity-concentration region at a first surface of a silicon substrate so as to surround a through-hole-forming region.

Specifically, *Hawkins et al.* teaches that it is difficult to position a through hole appropriately when forming the through hole from a back side of a substrate by etching. Therefore, according to *Hawkins et al.*, a filter made of etching stop portions is formed on a surface of the substrate, by forming many etching stop portions on a side of the surface of the substrate so as to allow the through hole to be formed anywhere thereon. *Hawkins et al.* is not seen to be directed to increasing the positional accuracy for the through hole.

The Office Action cites *Hawkins et al.*'s etch resistant layer 36 as the claimed "etching stop layer" and *Hawkins et al.*'s boron-doped patterned etch stop (regions) 30 as the claimed "high-impurity-concentration region."

Hawkins et al. (col. 7, lines 59-60) teaches that the entire top surface of the wafer 32 contains the patterned etch stop (regions) 30. According to *Hawkins et al.*'s method, the through-hole forming region must contain the patterned etch stop (regions) 30, in order to produce the integral filter in the ink inlet, which constitutes *Hawkins et al.*'s invention (see, e.g., col. 7, lines 9-12; abstract; "Summary of the Invention"). Accordingly, *Hawkins et al.* is not understood to suggest forming a high-impurity-concentration region merely so as to surround a through-hole-forming region.

Since *Hawkins et al.* is not understood to contain all of the elements of independent Claim 1, that claim is believed to be allowable over the cited art.

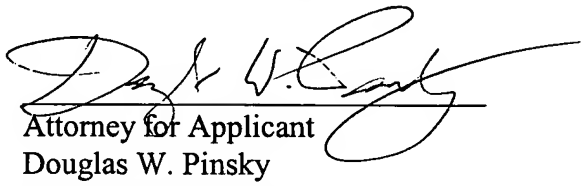
A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as a reference against independent Claim 1. Claim 1 is therefore believed patentable over the art of record.

The other claims presented for examination are each dependent from independent Claim 1 and are therefore believed patentable for at least the same reasons. Since each of these dependent claims is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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